

ARCHITECTURE

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ARCHITECTURAL CRITICISM.

THIS issue of ARCHITECTURE contains illustrations of three schemes of unusual interest, not only from the architectural side, but from the sentimental. Each is of patriotic purpose, commemorating past achievements, and offering a theatre for events of the future. One is international in character, one national, and one, primarily designed as a memorial to an American illustrious for his achievements, not in war but in peace, combines with this a great water gate to the city of New York, through which

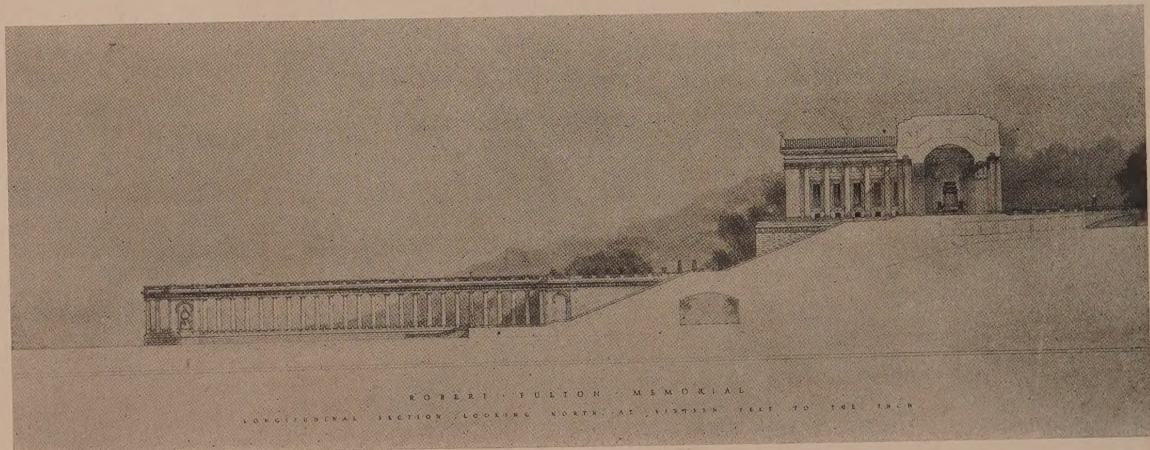
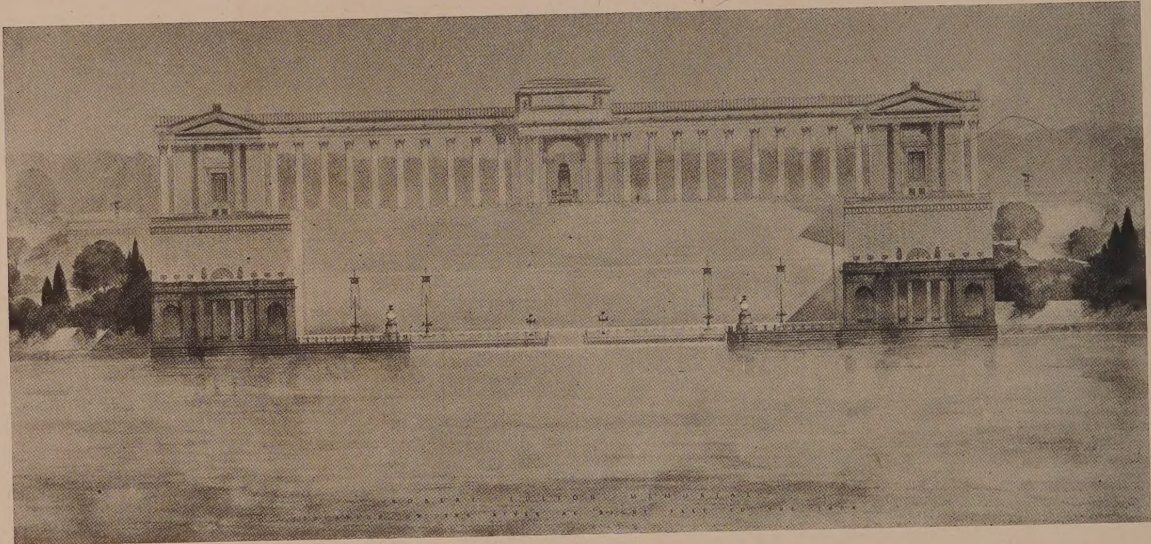
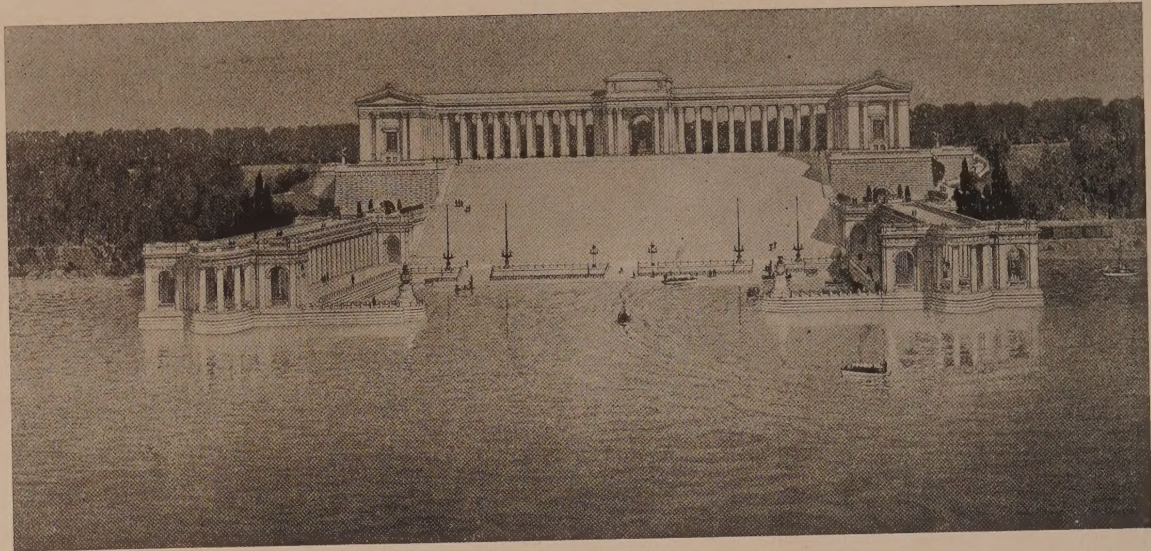
distinguished visitors to the United States may enter the city, and which will serve for a gathering place of war vessels, both American and foreign, met together for the advancement of peace. Two of them have been completed: the third, although at present it exists on paper only, and may never be realized, seems no more chimerical than did the other two when the intention to erect them was first disclosed.

We are gradually building up in the United States a great public desire for buildings whose purposes have no specific value in dollars and cents, but whose use is sentimental and artistic only, and with the increase in the number of these buildings, the aspirations of the nation and its appreciation of the beautiful will be increased.

The tendency of the world from the time of the break-up of the Roman Republic has been toward states of large size, and small nations having mutual interests have been constantly gathering together to form empires or solid and substantial kingdoms. The small state has become an anomaly which must inevitably vanish; notable examples of this are our own United States, which it is seldom realized was formed of thirteen practically independent commonwealths; the British empire, the Austrian empire, and the latest addition to the gathering, the German empire. Some years ago this tendency to meet together to further common interests resulted in the formation of the International Union of American Republics (Plates XLIX-LVI) whose membership includes most, if not all, of the independent countries of South, North and Central America. Its object has been primarily to develop closer commercial relations, secondarily to consider all problems of international welfare; and congresses are held of delegates from the different countries at frequent intervals. These congresses and the executive management of the union, which includes constant publication of literature pertaining to the different countries, showing possibilities for exploitation, for railroads, and other investments, and also the furnishing to shippers of such information as they may need in regard to methods of transportation, customs requirements, and other kindred subjects, have required a building in which they may properly be housed. The problem was not entirely a simple one since the largest rooms and in a sense the most important, for the use of the congress are but rarely used, as Washington is not the only city in which they are held; the last one was held in Brazil in the building erected by the republic of Brazil especially for that purpose. The headquarters of the administrative part of the work is, however, in Washington, and adequate office space for the housing of the director, his staff of writers, interpreters and secretaries forms an integral part of the scheme.

The competition was open to all and resulted in the submission of a really splendid series of designs from which the one by Albert Kelsey and Paul Cr t was selected as the most desirable; a judgment borne out by consensus of opinion among the competitors, but between the winning of the competition and the erection of the building lies a wide difference, and its completion has been eagerly awaited. That the result has amply justified the selection by the judges these photographs demonstrate. The scheme chosen was (in deference to our sister republics) of the Spanish-American type, enclosing a central patio, but so modified as not to conflict in architecture with those Washington buildings with which it is in close proximity. The exterior appears very simple, yet it is a deceptive simplicity, since all

(Continued page 83)



PERSPECTIVE, ELEVATION AND SECTION ACCEPTED COMPETITIVE DESIGN, ROBERT FULTON MEMORIAL, NEW YORK.
H. Van Buren Magonigle, Architect.

(Continued from page 81)

important parts are beautifully enriched, but the detail is so delicately designed and so well placed that it interferes in nowise with the mass. The treatment of the front with pylons reinforcing the triple entrance and simple plain windows defines the plan, and makes the entrance at once dignified and imposing. The main vestibule is a superb piece of architecture, the material throughout being stone and marble; it is two stories high, and the ends are splendidly terminated with balconies supported on pairs of marble columns. At the side of each end of the main vestibule are staircases to the second or principal story, while the administrative rooms are placed on the first. With the photographs before one it is hardly necessary to comment on the delightful way in which these staircases are managed, but a few words regarding the patio enclosed by the vestibule, these two staircases and the hall of the republics at the rear may not be amiss.

The patio is crowned by a frieze of colored terra cottas, enriched with the arms of the republics composing the union, and each panel having in its center the name of its national hero, generally the man who did most to establish the independence of his country, or as our brother republics of the South call it, "the liberator." Many of the names are strange to us; two of those shown in one of these illustrations, "Artigas" and "Bonifacio," convey no meaning to me; one of them—*Louverture*—was black. One of the purposes of this building is to teach us citizens of the United States that all the great deeds have not been done in Europe, that history has been made in Argentina and in Peru as it has in Europe and that the republics of South America are not subjects for comic opera, but the homes of people as cultivated, as artistic, and as courageous as ourselves, even though their language be not ours, nor their ideals in all respects the same.

In the great hall of the republics all national significance is omitted; the tablets at the four corners bear simply the word "Pax" and the great white beautiful dignified room is well fitted to be the home of an assemblage of nations gathered for the purpose of maintaining peace.

THE competition for the Fulton Memorial (pages 82 and 83), won by Mr. Magonigle, was perhaps the most interesting that has been put before the American public for American architects for a number of years. The scheme

included a tomb and monument to the inventor, a museum and a hall for the reception of distinguished visitors to New York, with proper approaches by land and also by water.

I suppose so monumental an entrance is not a necessity. The little float beside the gas tanks at the foot of Forty-second Street, used as a landing in 1892, certainly gave an opportunity to the distinguished foreigners who visited New York to get ashore without wading, but that is about all the use it had. They entered the city through a region of crowded tenements, through which even native New Yorkers cannot pass without holding their noses both literally and figuratively, and while there was no apparent indication of any public shame over such a condition of affairs, such must have been felt since in the Fulton Memorial it is proposed to include a decent and beautiful entrance to New York from which one will pass to the center of the city through its most attractive portions.

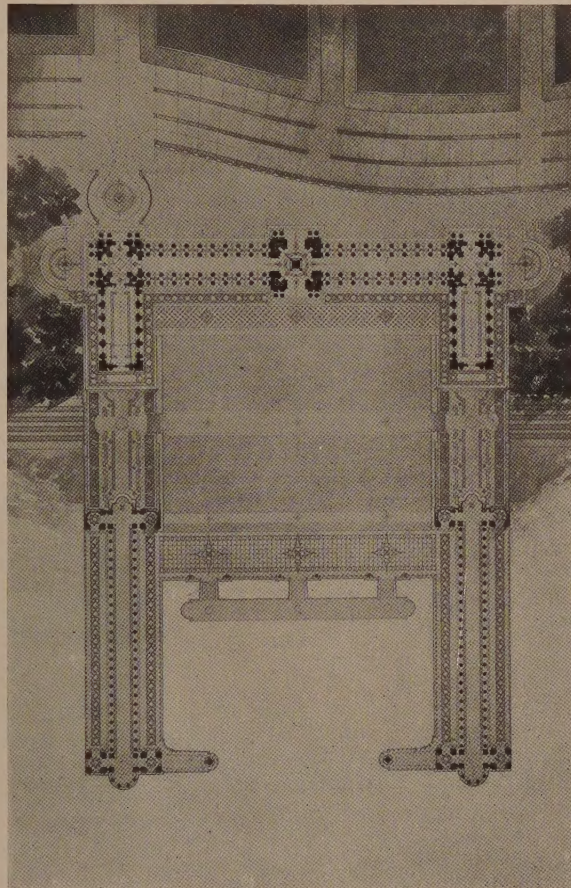
The scheme is a great one, and the winning design is of an excellence meet to its purpose. On first seeing these drawings I felt like calling this appreciation "Magonigle come to his own at last," for here we have an opportunity and a scheme, alike worthy of this great artist's merits. Magonigle has been in competition after competition showing us always superb architecture, but has been singularly unfortunate in that the best of his designs (except that for the McKinley Memorial) has been for schemes which were not consummated. Let us hope that his luck has changed.

He has in this scheme rid himself of the French influence which, to my mind at least, has marred many of his previous efforts, and has raised himself to a height of simplicity and pure beauty which McKim, Mead & White alone have hitherto attained. He has divested himself from any mere chic or cleverness

and has thought and designed in the simplest and purest terms. I suppose that the building will be criticised as being too purely classic, yet I believe that we to-day have as much right to use Classic forms as did the Greeks themselves and when they are so magnificently handled as is here the case, they have no suggestion whatsoever of archaeology.

The program suggested to most an exceedingly complicated and "stunty" design, but Magonigle was a big enough man to divest himself of this thought, and worked in a simple and authoritative way. One of the things which troubled many of the competitors was that the broadest of the cross streets was opposite one end and not at the center of the plot. With Mr. Magonigle's solution before us, so

(Continued page 90)



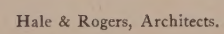
PLAN, ACCEPTED COMPETITIVE DESIGN,
ROBERT FULTON MEMORIAL, NEW YORK.
H. Van Buren Magonigle, Architect.

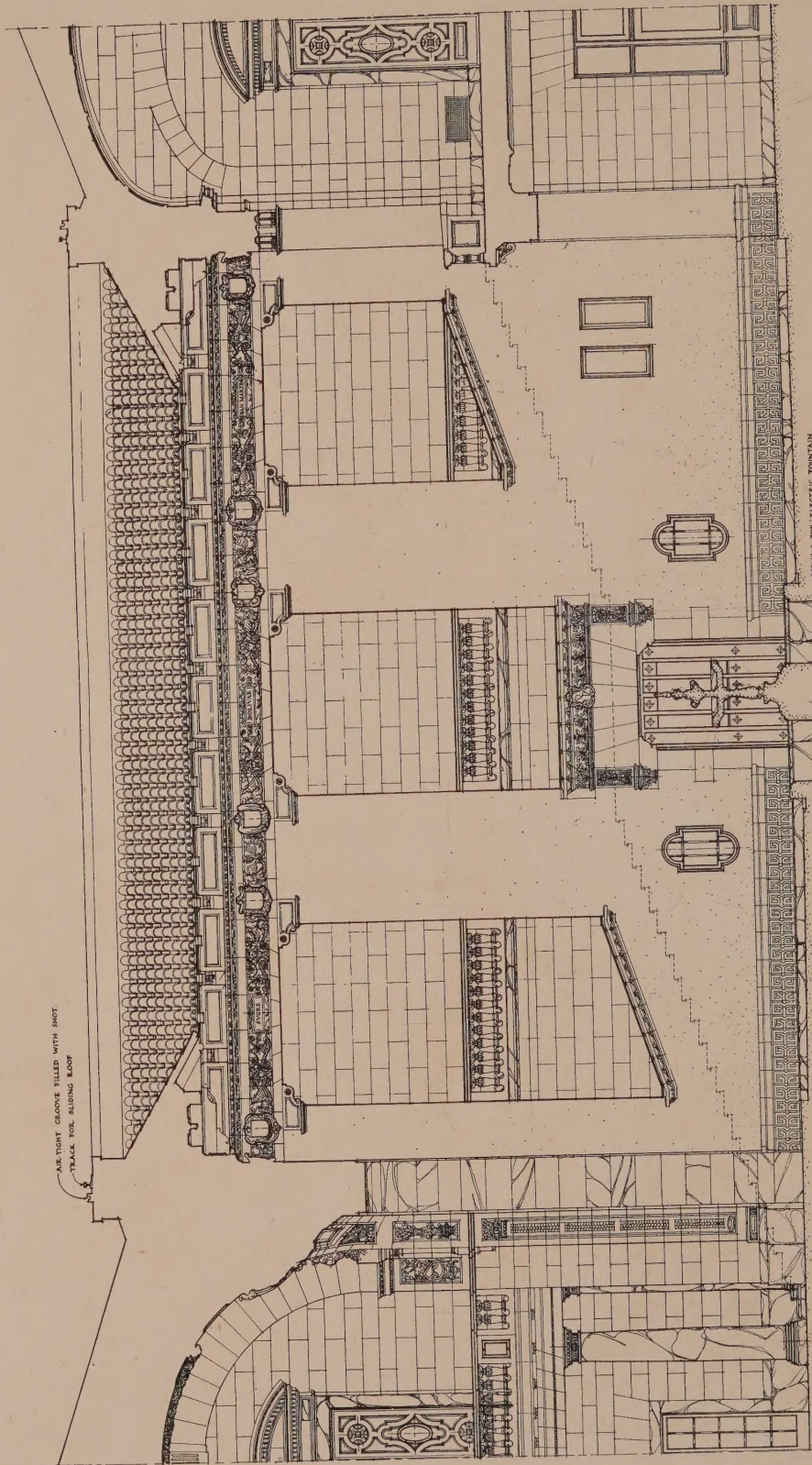


HILLSIDE GRAMMAR SCHOOL, MONTCLAIR, N. J.

Kinnear Pressed Radiators.

Hale & Rogers, Architects.



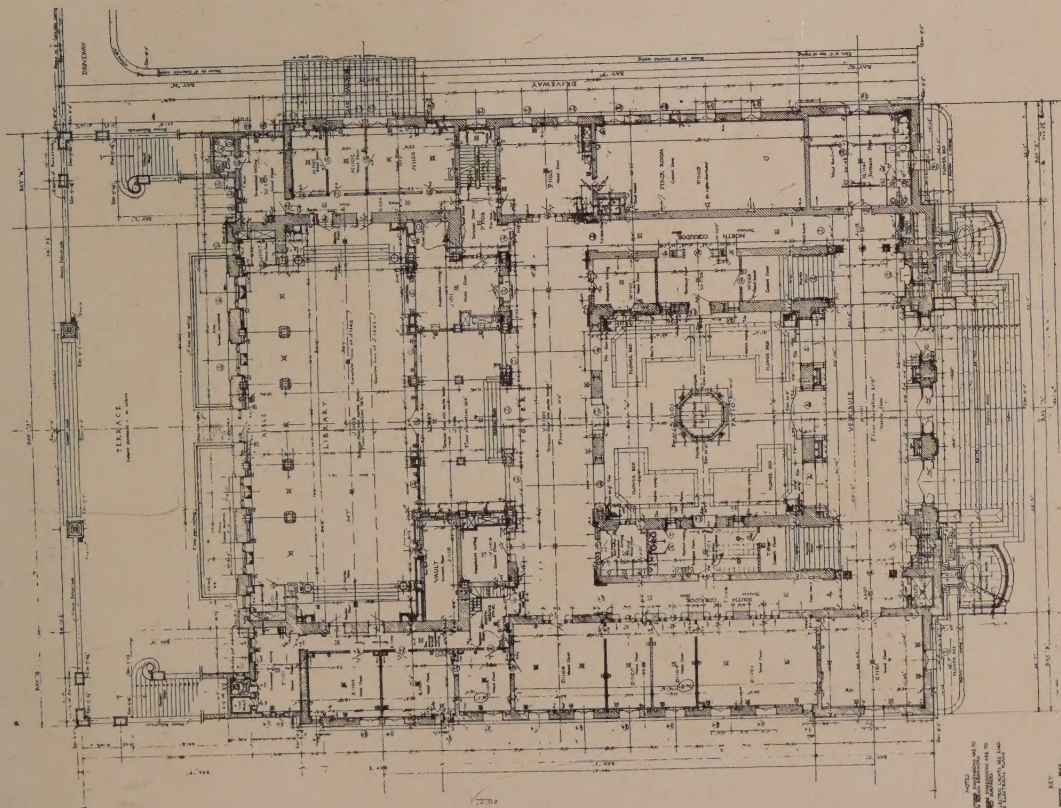


RE-REVISED SECTION OF PATIO

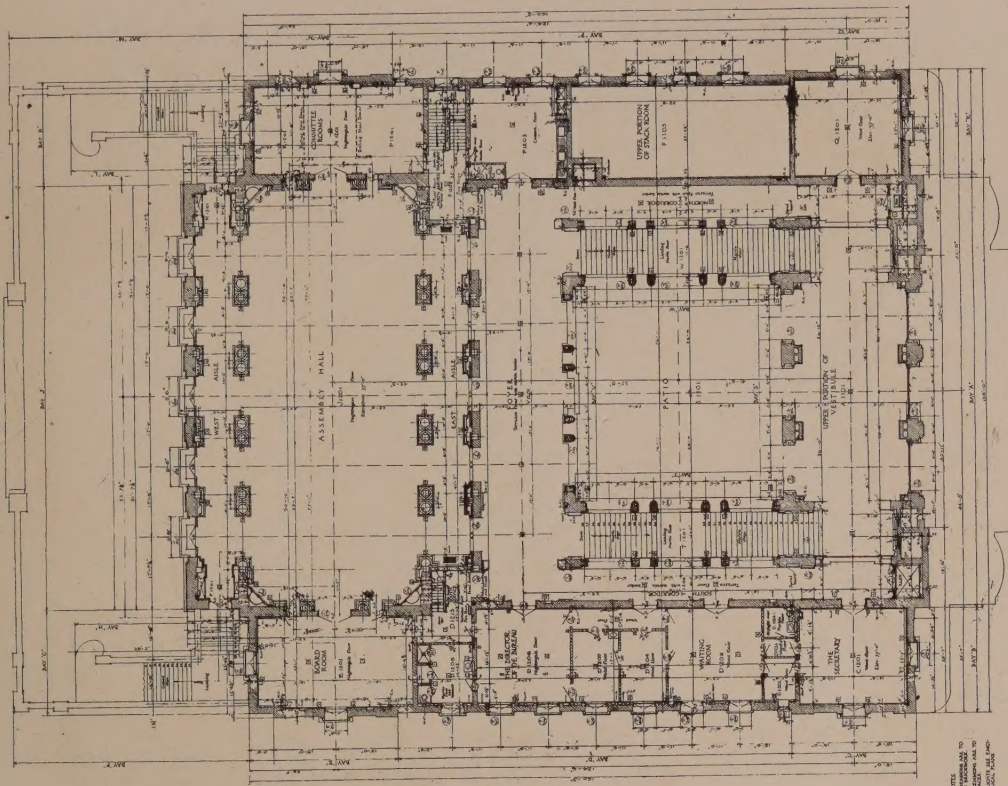
INTERNATIONAL BUREAU OF AMERICAN REPUBLICS
WASHINGTON D.C.

ALBERT KELSEY AND PAUL P. CRET
O ASSOCIATED ARCHITECTS
O WILLIAM COPELAND - FURBER
CONSULTING ENGINEER
THIS SHEET SUPERSEDES SHEETS 19 AND 85, EXCEPT WHERE NOTED

SEE SHEET NO. 10
FOR PLAN AND SECTION
DATE JANUARY 1910



FIRST FLOOR PLAN
INTERNATIONAL BUREAU OF AMERICAN REPUBLICS
WASHINGTON - D. C.
ALBERT KILIST AND PAUL P. CHET
ARCHITECTS AND PROJECT O
1000 K STREET, N. W.
WASHINGTON, D. C.
WILLIAM GORTLAND - FURNISH
CONCRETE - ENGINEER
SCALE 1/8" = 1'-0"
NOV 1914



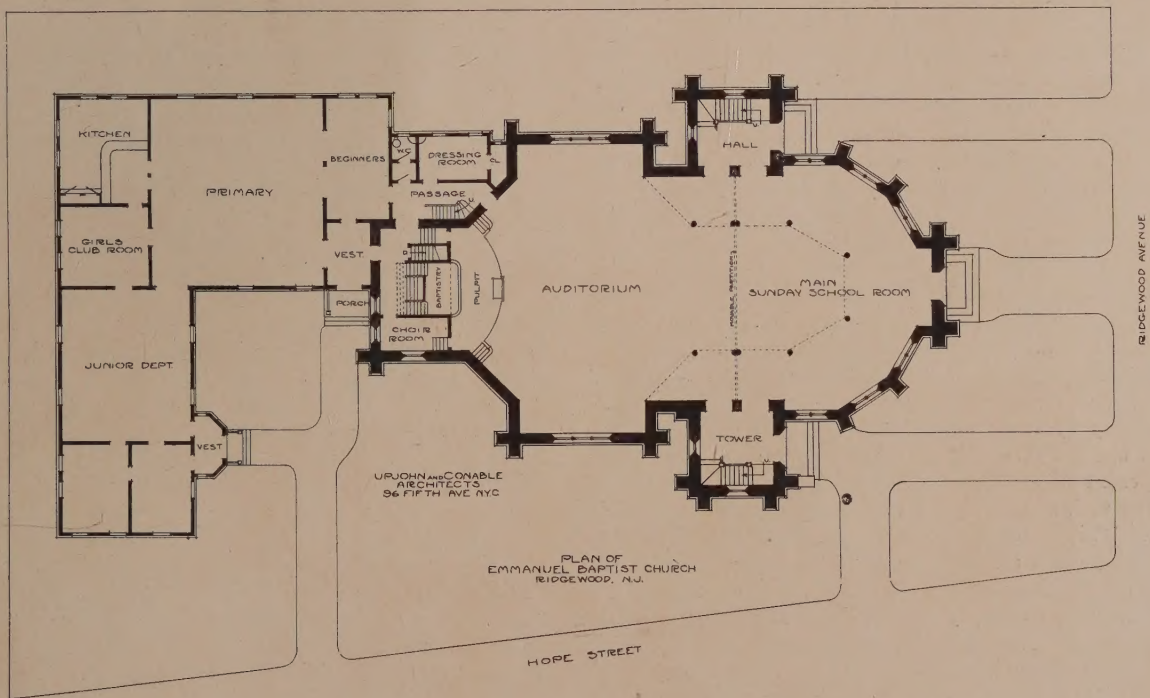
SECOND FLOOR PLAN
INTERNATIONAL BUREAU OF AMERICAN REPUBLICS
WASHINGTON - D. C.
ALBERT KILIST AND PAUL P. CHET
ARCHITECTS AND PROJECT O
1000 K STREET, N. W.
WASHINGTON, D. C.
WILLIAM GORTLAND - FURNISH
CONCRETE - ENGINEER
SCALE 1/8" = 1'-0"
NOV 1914



Museum.



President-General's Room.



(Continued from page 83)

well has he thought it out, that it seems as if this were the only proper arrangement. The great flight of steps I have heard criticized as impractical, but it forms a base to the structure of the utmost nobility.

The competition was a very remarkable one, both from the number of drawings submitted and for the wonderfully high average. At the dinner of the competitors the judgment of the committee was cordially commended by those who lost as well as by the winner, and it is a most encouraging feature of our big American competitions that in so many cases the judges' verdict is so cordially approved, and a still more agreeable thing to note is that the victor and the vanquished can meet together without rancor to celebrate the victory.

NOT far from the building of the Union of the American Republics is another whose purpose, almost as interesting, looks rather to the past than to the future. The Society of Daughters of the American Revolution have found it necessary to erect a central building which is the meeting place for their annual congresses (Plates LVII-LVIII). It has often been observed by foreigners that we, in a country whose constitution prohibits patents of nobility, or the bestowal of orders, have become almost society mad, gathering ourselves together into organizations, whose insignia, medals, and ribbons take the place of the European decoration. Some of these societies, despite their high-sounding titles, are merely co-operative insurance companies. Most of them have for their purposes mutual help, but of them all the only ones whose object is not in some way selfish, are our great patriotic societies. The Society of the Cincinnati, founded by the officers of Washington's army, was the first in time and still remains the greatest in object. Others, the Sons of the Revolution, the Society of Colonial Wars, Sons of the American Revolution, the Loyal Legion, etc., have been founded mostly that the heroism of the preceding generations should be neither wasted nor forgotten, and that our country should be kept faithful to the ideals they strove for. Co-ordinate with these men's societies have been several for women, the largest of which is the Daughters of the American Revolution. These women who meet together with an earnest and serious purpose, have been held up to ridicule by the newspapers whose reports would indicate them as being solely actuated by a vulgar and petty squabble for place and preferment. Yet, when one goes about the country and finds in every old town large or small houses of historic interest preserved, by their efforts, from destruction, some spot where patriotic deeds have been enacted, recalled to memory by bronze tablets erected by this society, one cannot but feel that their work has been very worthy. And the greatest of all their achievements, the rearing of their children to love and loyalty to country is never chronicled at all. This building will serve to remind the unthinking that their purpose is a high one, and is very worthily fulfilled.

The building itself is an excellent example of the Colonial style, developed and modified to suit present day requirements. The interiors illustrated are quite Colonial in character although somewhat infused with French ideals. The exterior is perhaps not so happy as that of the Bureau of American Republics; the mass is too much broken, the porte cochere projects too far, and at least from these photographs the design does not quite hang together. There seems to be no necessity for recessing the front between the bays, and then again for bringing it out as a porte cochere. These are

matters, however, of secondary importance; the building as a whole is of great artistic merit, and certain portions of the detail, notably the spacing and treatment of the windows, and the circular porch at the left, are of extraordinary merit.

INTERNATIONAL BUREAU OF AMERICAN REPUBLICS, WASHINGTON, D. C.

THE new building of the International Bureau of American Republics, formally dedicated Tuesday, April 26, is unique in many respects (see Architectural Criticism, page 81). Its style of architecture is entirely different from that of any other public building in Washington. It provides abundant, well lighted, sanitary, and convenient office space for its present staff, but it is also constructed with reference to future growth. It contains remarkable and interesting features which are suggested by, and in accord with, the unusual scope of the institution as an international diplomatic organization devoted to the development of commerce, peace and friendship among the American Republics.

It occupies one of the best sites in Washington, at the junction of the White Lot, Mall and Potomac Park, overlooking the river and the Virginia hills, and near the Washington monument. It has the great advantage of standing alone in a tract of land covering five acres, formerly known as Van Ness Park. This gives an ideal approach and abundant surrounding lawn space.

The building has a frontage of 160 feet and a depth of 200 feet. It is said to be the most solidly constructed edifice in Washington. It is, of course, absolutely fireproof. The entire exterior is faced with white Georgia marble. The exact cost of the structure as it stands is \$750,000, generously given by Mr. Carnegie. The land and equipment represent an expenditure of \$250,000 specially appropriated by the twenty-one American republics, including the United States. The total investment is, therefore, \$1,000,000. The architects are Albert Kelsey and Paul P. Cr  t, of Philadelphia, who won in a competition of seventy-seven of the leading architects of the United States.

The front of the new building carries two monumental marble statuary groups representing respectively North and South America. Above the former is a panel depicting Washington's farewell to his generals as beginning the era of peaceful government in North America; above the latter is one showing the parting between Bolivar and San Martin, the great liberators of South America. Above each of these in turn are respectively the Eagle of North America and the Condor of South America. Gutzon Borglum was the sculptor of the North American group and the panel above and Isidore Konti of the South American group and its panel. Solon Borglum did the sculptured birds. At the base of the statuary groups are two fountains which heighten the beauty of the fa  ade.

The entrance is through large bronze grille doors costing over \$40,000 and the most elaborate in Washington. These lead to a high studded broad vestibule carrying on its walls bronze panels symbolic of "Love of Country," "Concord," "Law," and "Enlightenment" done by Isidore Konti. At the right is a special reception room for ladies. On the left is the general reception room furnished in Oregon fir, which was presented to the bureau by the lumber manufacturers of Oregon and Washington, and is one of the most beautiful rooms in the building.

The patio or court yard is in some respects the most

remarkable feature of the structure. Its dimensions are 50 feet by 52 feet and it is covered by the largest sliding glass roof in America. This runs by electricity and can be opened and shut in fifteen minutes. As the patio can be, therefore, closed in winter, it has been filled with the rarest exotic plants and trees of the American tropics, most of which have been put in place under the skillful direction of William R. Smith, the Superintendent of the United States Botanic Garden. On the walls of the patio are emblazoned the escutcheons in colors of all the American countries including Canada and the names of twelve men famous in Pan American history. The pavement tiling portrays ancient Aztec and Incan mythological characters.

The fountain in the patio, however, is its striking feature and is the most elaborate of its kind in America. Cut from Etowah marble, its lines and figures were designed by Mrs. Harry Payne Whitney of New York, who was Gertrude Vanderbilt, the daughter of the late Cornelius Vanderbilt. Its figures of men and women are of the Mayan, Zapotecan and Aztec eras. Its mechanical features are almost as interesting as its artistic lines. It contains no less than 4,500 feet, or nearly one mile, of tubing, which with the use of colored electric lights and compressed air will cause the water to play in all the colors which are shown in the flags of the American Republics. These can be displayed, moreover, to musical time and made to accompany, in colors of the countries, the playing of their national hymns.

POINTS TO BEAR IN MIND IN BUILDING.

MEMBERS of the National Society of Home Art and Decoration will be interested in the latest issue of the International Studio Year Book, which has just made its appearance and which gives valuable suggestions from recent work done in Great Britain, Germany, Austria and Hungary. Critical articles are contributed by C. H. B. Quennell, for Great Britain; L. Deubner, for Germany; A. S. Levetus, for Austria and Hungary. Mr. Quennell in the course of his articles makes some practical suggestions respecting the relations between architect, builder and client and the possibilities which the developments of the day offer to the architect who is alive to his best opportunity.

At the moment, he writes, the architect is confronted with all sorts of new methods of building—as, for instance, steel construction and ferro-concrete—and his eventual success will depend largely on the measure in which he keeps pace with these innovations, taking what is good and rejecting the bad. For instance, assuming that a rolled-steel joist be employed to support a floor, it is better to finish the same as a plastered beam, which will add to its fire-resisting qualities.

The architect will keep in mind the great tradition of his craft and not be led, on the one hand, into the doubtful paths of reproduction, or, on the other, into the wild mazes of eccentricity. His houses will be suited to the special requirements of his client, the site and materials. He will neglect Isaac Ware, who, having designed the exterior, used a sort of architectural shoe horn to get the interior squeezed in. The client's house must reflect his personality; be he studious, then the library will show it; or of more sociable disposition, then ball and billiard room will evidence such qualities. Plan goes hand in hand with the exterior elevations, but most certainly it should come first. Men and women of to-day are an essentially open-air race, and it is not logical to ask them to live in a house suitable for, say, one of Jane Austin's heroines. The architect will next con-

sider the site and its peculiarities, and the suggestions that it will offer for an individual treatment of house and garden in regard to aspect are endless. A fine view or a good tree to be preserved may be a happy start and must be carefully considered; or the difficulty of obtaining, say, one room with a fine view looking north and yet getting sun into the other rooms may give the keynote for the whole.

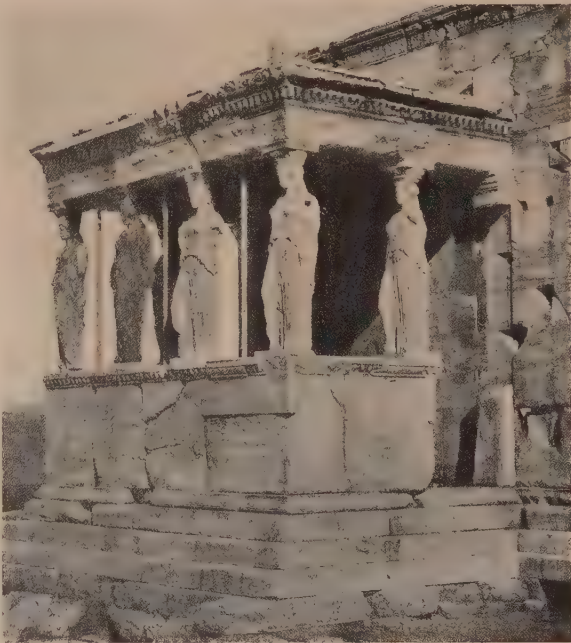
The materials for the house will have their share in determining its character, and, as previously noted, should always be local ones if of good quality—stone in a stone country, and bricks where they are made.

From the client's point of view, one very important detail is the question of cost, and here the architect should be his best friend. He will be careful in his design, that the simplest methods are the ones adopted, and in so doing he will be acting only on the traditions of his craft, because the fine old houses were produced largely by a race of craftsmen who instinctively built in the simplest way with the best results. An architect's duty to his client is to provide him with a house in which no money has been wasted and which the client can regard as a readily salable asset; it can be done, and is generally so arranged when architects build for themselves. The old men are worth copying, at least in this respect, that they talked little and knew less of art, and yet were artists, and at the same time they had a very healthy commercialism in them.

The remaining party to the building contract is the builder, and the success of the house will depend in a large measure on his interest in the work and the amount of sympathy that he may have with the ideas of the architect. He should be paid a fair price and there should not be any attempt to extort from him more than he has contracted to do. Assuming that he is asked to estimate on a well-thought-out scheme, and is not called upon to alter it, extras should be non-existent at the end of the job. Our builder is to be regarded as a friend rather than an enemy, and, this being the case, and having obtained our confidence, he will build both honestly and well.

The introduction and general use of machinery in the nineteenth century has certainly exercised a most harmful influence on the quality of our craftsmanship; or perhaps it would be sounder to say the abuse of machinery. In hundreds of other ways it has improved the lot of man—as, for instance, in the printing of the delightful editions of the classics with which we are familiar. Ruskin and Morris railed at machinery, but it is still here, and likely to be for the rest of time, but the hope for the crafts is that it will not be used so freely as hitherto in the hopeless attempt to imitate handicraft. There are, for instance, quite wonderful machines that turn out really hideous carving. If such enrichment cannot be done with the grace and beauty of the skillful hand evidenced in it then let us have our buildings without carving. Many other instances might be given, but hope lies on some middle course that will admit of a free use of machinery for the plain-sailing work, with the provision of handicraft for those parts which it is intended shall be made interesting.

In addition to the strictly architectural features of the new Year Book there are sections devoted to furniture, fireplaces, wall and ceiling decoration, stained glass, embroidery and textile fabrics, pottery, porcelain, metal work, enamel, mosaic, leather work and wood carving. The Year Book is copiously illustrated with 440 reproductions including sixteen full-page plates in color.



Original cornice and architrave blocks restored, also fragments of capping to podium.
SOUTH PORCH IN 1909.

RECENT RECONSTRUCTION WORK ON THE ATHENIAN ACROPOLIS.

LIONEL B. BUDDEN, B.A., IN THE LONDON ARCHITECTURAL REVIEW.

IN April, 1902, the Greek authorities, emboldened by the success of certain necessary repairs to the entablature and columns of the Parthenon, determined on the partial rebuilding of the north portico and west and south walls of the Erechtheion. By July of the same year part of the Parthenon scaffolding had been removed and re-erected around the Erechtheion, and the work begun.

The decision was based on the advice of an expert committee formed to report on the question. Amongst the experts whose opinion was taken were M. Saurot, Director of Public Works, Professor Dörpfeld, archæologist and architect, and M. Balanos, the architect and engineer attached to the Ministry of Education, who superintended the repairs to the Parthenon.

The ruinous condition of the Erechtheion was largely due to injuries received in recent times. A caryatid of the south porch and a column of the east portico were removed by Lord Elgin in 1804. The former was torn away with such carelessness that both the architrave and the ceiling of the porch were ruined. The two northwest columns and part of the ceiling of the north portico, together with two of the engaged columns of the west wall, fell during the War of Independence, whilst the Acropolis was undergoing siege. The greater part of the remainder of the west wall was blown down by a storm in 1852.

Most of the fallen members, except those removed by Lord Elgin, were still on the spot and could be assigned with certainty to their original positions. The proposal to replace them was not without precedent, for important features of the Erechtheion, as it then stood, were the results of similar restoration. Three columns of the north portico and a portion of the north wall were re-erected in 1838; the south wall was to some extent rebuilt in 1844; and

the south porch repaired in 1846 at the expense of the French Ambassador, then resident in Athens.

Some of the most serious injuries to the structure were, of course, irreparable. These for the most part refer to the interior, and were inflicted in mediæval times. During the Byzantine period the Erechtheion was transformed into a Christian church. The orientation, as in the case of the Parthenon, was reversed, and an apse was built at the east end. The floor level of the two western divisions was continued through, and all the inner foundations of the eastern cellas were removed, as well as part of those of the east portico, which interfered with the construction of the apse. (This radical alteration of the interior of the building gave support to the theory based on a mis-reading of Pausanias [i, 26, 5], that two stories originally existed west of the eastern cross-wall. Carl Bötticher, the chief supporter of this view, erroneously takes the five slits in the north and south walls to be windows to light a basement story. Mr. H. N. Fowler, of the American School, has shown, however, that these openings were made to give light to the side aisles when the building was being used as a Christian church.)

An arrangement of nave and aisles on either side was adopted, the aisle colonnades being supported on rude foundation walls constructed of ancient material. Two roughly-built cross-walls were erected, one to take the screen in front of the apse, the other, slightly to the west of the



The vertical architrave slabs are original; the horizontal architrave and the cornice and its brackets are second-century introductions. The ends of the original lintel (the depth of which was equal to two courses of the wall masonry) are still visible on either side. The subsidiary lintel and jamb linings date from the Byzantine period.

NORTH DOOR OF THE ERECHTHEION ON THE ACROPOLIS AT ATHENS.



Photograph taken in 1901—before the restoration.

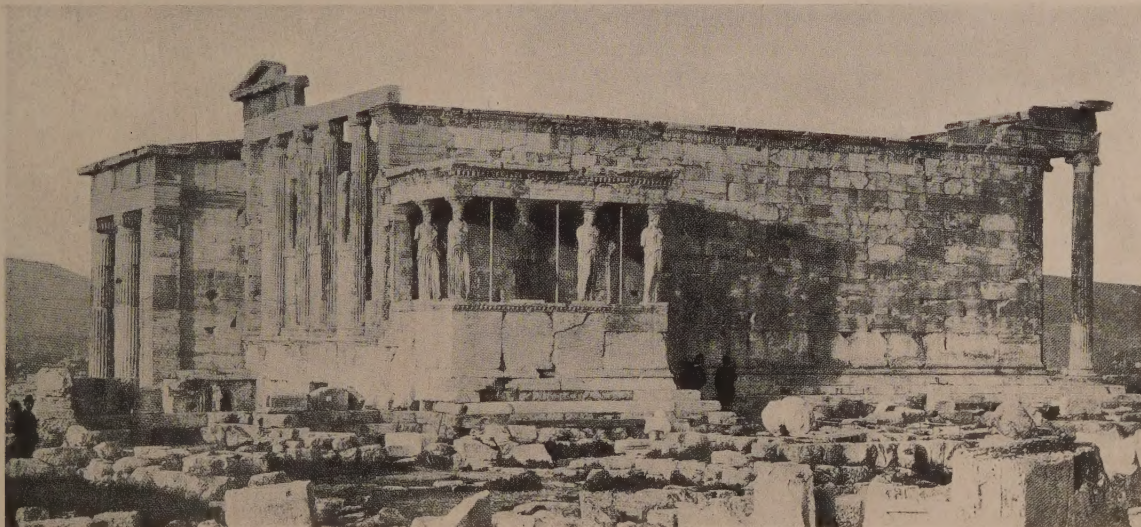
ancient colonnade dividing the western cellas, to form the narthex of the church. The panels of the central door of the latter were still standing when Inwood visited Athens in 1837. The main entrance to the narthex was through the door in the west wall. To serve its new purpose this door had to be slightly widened and the rough work on the jambs still indicates the clumsy fashion in which the alteration was effected.

During the Frankish occupation of Athens the Erechtheion was converted into a Roman church, and continued to serve the same purpose under the Venetians. Neither then nor in the succeeding Turkish period, when it was occupied by the harem of the Mohammedan ruler of the Acropolis (1458), does it appear to have suffered any very serious damage as far as can be ascertained.

At the close of the War of Independence, during which the building sustained such great injury, the whole sur-

rounding area seems to have been more or less deeply buried under a mass of débris. This was cleared away in 1837. From that time up to the present, assiduous study of the entire fabric, stone by stone, has resulted in the accumulation of a vast amount of important data on which to base a fairly complete restoration.

The investigations of Professor Dörpfeld, Dr. T. W. Heermance (the late Director of the American School at Athens), and Mr. G. P. Stevens (former Fellow in Architecture of the School), have rendered necessary a considerable readjustment of previous conceptions with regard to the original form and character of the building. M. Balanos, to whom was entrusted the technical direction of the repairs, advised by the committee, was, therefore, to a large extent guided in his undertaking by the recent discoveries of these experts, and the convincing appearance of his skillful restoration is as much to their credit as to his.

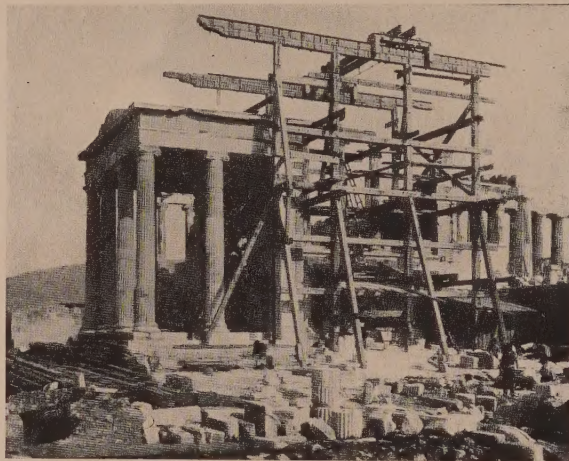


Photograph taken in 1909—after the restoration.

THE RECONSTRUCTION OF THE ERECHTHEION.



THE NORTH PORTICO AND WEST WALL IN 1901.



THE NORTH PORTICO RESTORED AND THE WEST WALL IN PROCESS OF BEING RESTORED (1903).

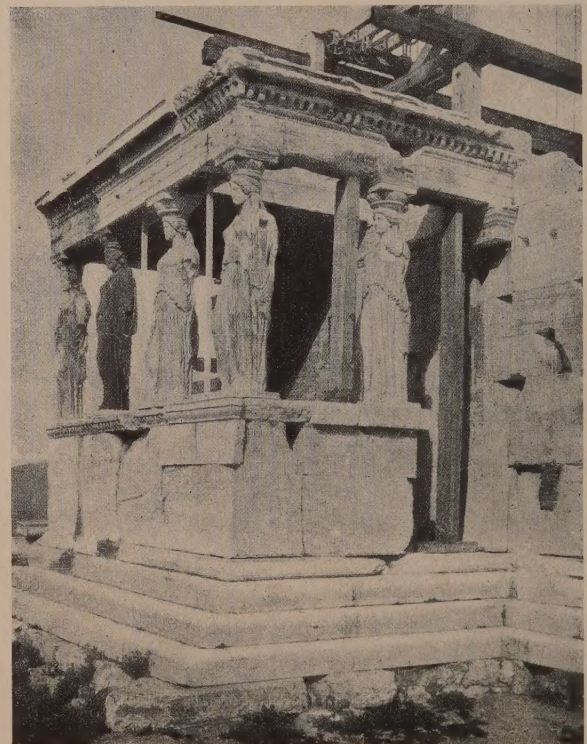
In the execution of the work the ancient material was supplemented, only so far as was absolutely necessary, with new marble, the surface of which was stained a yellowish color in order to make it approximate in value to the tone of the original. In the case of the north portico the drums of the damaged columns were either renewed in part or completely replaced. For this purpose the new blocks which had been provided on a previous occasion, and were lying beside the structure, were employed. The marble beams of the ceiling were replaced in their original positions, supported by steel joists running their entire length. Missing coffers were replaced by unsculptured slabs, with the exception of two in the inner southeast angle that had been omitted originally. For the support of the central beam, which abuts on the wall above the doorway and which might, by its weight, have caused injury to the broken lintel of the latter, a steel joist was inserted in the wall. In the restoration of the west wall a vertical stanchion was introduced to replace the pier of modern masonry that had previously supported the great lintel at the southern extremity. No further steel work was found to be necessary in the rebuilding of the south and east walls.

In the case of the latter, Mr. Steven's peculiarly intimate knowledge of the structure alone rendered its reconstruction possible. The most interesting of his discoveries, however, relates to the extent of the repairs executed in antiquity. These he found to include the ceiling and architrave of the north portico, portions of the north door, and the west wall—all of which date from an early Roman period.

Though there is still some uncertainty as to precisely when the building of the Erechtheion was begun—Michaelis taking 421 B. C. as the most probable date, and Professor Dörpfeld 432—the latest researches into its history have shown that the walls were up as far as the epistyle in the late summer of 409. Further, from various inscriptions giving accounts of wages, specifications of masons' and carpenters' work, and reports of commissioners appointed to examine the progress of the building, it would appear that the east cella was completed and probably occupied in the spring of 408, the sculptural ornamentation of the building completed and the western apartments roofed over in the spring of 407, and the entire structure, with the exception of certain details, practically finished in the summer of the same year. About twelve months later the building was injured by fire, and does not appear to have been repaired till 395. (Professor Dörpfeld believes this fire to have originated in and to have been confined to the adjacent Hecatompedon: but his theories on this question, which are based on individual interpretation of the epigraphical evidence, do not find any very ready acceptance amongst contemporary archæologists.)

There is, unfortunately, no record of the disaster, or series of disasters, to the fabric of the Erechtheion which rendered necessary the repairs executed in Roman times. From the general character of the work Mr. Stevens is inclined to regard it as of the second century and contemporary with the erection of the peristyle of the Olympieion.

With regard to the west front, it would appear that the theories developed both by Borrmann and Professor Dörpfeld are essentially correct. This façade had originally four Ionic columns standing free. A bronze grille, or possibly a wooden screen, resting on a low parapet wall, closed the four



Caryatid next entrance is chiefly a restoration, in marble, made in 1846, when the portico was in danger of falling. Caryatid next angle figure at far end is a terra-cotta copy intended to replace the one removed by Lord Elgin in 1804.

SOUTH PORCH IN 1902.



The new marble is stained a yellowish color so as to avoid an appearance of patchiness.

DETAIL VIEW OF WEST WALL SHOWING METHOD OF RESTORATION.

northern inter-columniations. That adjacent to the caryatid porch was left free, as is shown by the finish of the anta. The existing arrangement of engaged columns built into a wall pierced by three window-openings belongs to the Roman period. The necessity of taking into consideration the various requirements of the sacred precincts on this side of the temple dictated both the position of the west door and the construction of the south end of the lower part of the west wall. The necessary reduction in the weight of the superstructure at the southeast angle was obtained by the omission of any fulfilling to the inter-columniation above, and by a diminution in the thickness of the south wall.

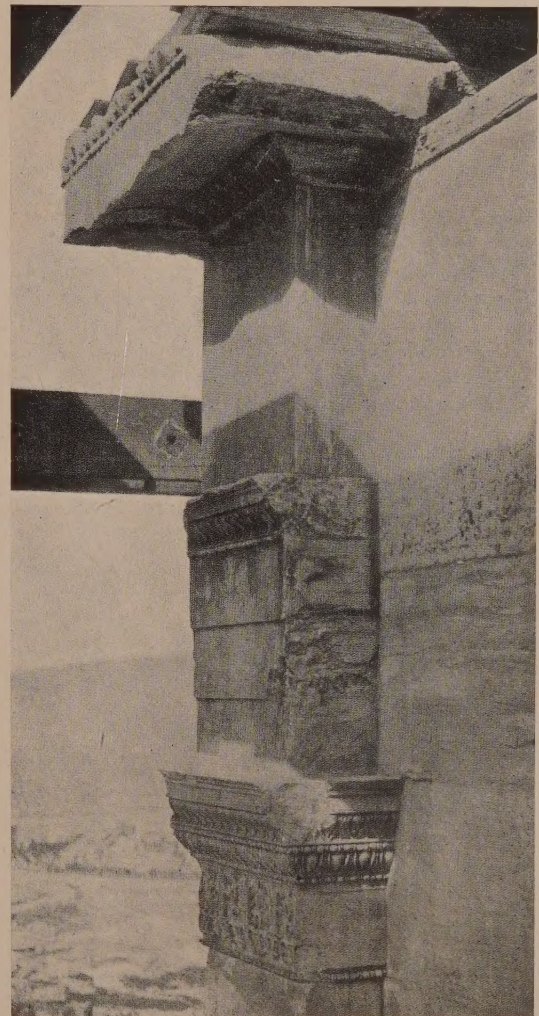
A careful examination of the surface of the masonry of the west wall, made by Professor Dörpfeld when the scaffolding for the restoration was in place, showed that this wall is, toward its southern extremity, imperfectly finished below a certain line. The incomplete character of the proximate detail had long been a matter of common observation. These facts are now accepted as evidence for the existence of a religious monument at this point, which sufficiently obscured the adjacent corner of the Erechtheion to justify a less careful articulation in the parts of the latter.

In collecting and arranging the fragments of the fallen coffers of the north portico, it was discovered that by the omission of two coffers an opening had been left in the southeast angle connected with a similar aperture in the roof by a rectangular casing of marble slabs. Directly below, an opening of about 1.31 metres square was provided in the pavement of the porch. The apparent purpose of the whole arrangement was to leave open to the sky certain marks of

peculiar religious significance on the rock-floor of the crypt under the porch. This crypt, partly cleared out by Beulé, was accessible through a small door below the orthostas of the north wall. The device has several Roman parallels, and may possibly have been adopted at the time of the restoration of the ceiling.

The results of Mr. Stevens's study of the famous north doorway were largely anticipated by those of Mr. Weir Schultz, who devoted considerable time to an exhaustive examination of the door in 1891. Their coincident discoveries have the greater significance as, in the previous absence of evidence to the contrary, the architects of the Greek Revival, with the single exception, we believe, of Alexander Thomson, unquestioningly accepted the door as a purely fifth century work, and introduced it bodily into their designs. A tentative enlargement of the underscale brackets was about the utmost variation attempted. Thomson alone, with extraordinary intuition, used the idea in its original form.

The greater part of the door, as it exists to-day, is post-fifth century, and some of it post-Classic. It may be definitely affirmed that the present lintel, cornice, and brackets date from the second century. Only the ends of the original lintel remain, but it is evident that its cornice was not carried



This photograph was taken when the scaffolding was in place.

DETAIL OF ANTA CAPITAL AND ENTABLATURE TO NORTH PORTICO SOUTHWEST ANGLE.

beyond the architrave on either side, and had no bracket supports. Mr. S. H. Barnsley, after an investigation of the manner of securing in position the vertical slabs of the architrave (whose rosettes differ from those on the horizontal face above in having open centers), came to the conclusion that this part of the door may be taken as original. The jamb-linings, together with the subsidiary lintel which they support, are Byzantine introductions.

As to whether the north door was the main entrance to the temple, there is still too much ground for controversy for a final decision to be pronounced. Fürtwaengler is disposed to regard the main entrance as being on the north side. Professor Dörpfeld, interpreting Pausanias differently, takes the east end as the most probable. In any case the south porch may be eliminated from the question. The stairs leading down from it into the west chamber were only intended for occasional and special use, and the whole feature was designed rather as a mass necessary to the composition of the south façade than as a means of access to the building. The same uncertainty may be said to exist still with regard to the question of internal communication between the east and west cellas.

The unique plan of the temple on an awkward rock site, falling rapidly from southeast to northwest, has generally been explained as the outcome of the necessity of incorporating under one roof various ancient cults whose location could not be moved. Yet it is obvious that this cannot account for the illogical character of the design as a whole—an arrangement in which the most elementary blunders in massing and composition are committed without apparent necessity.

The juxtaposition of Ionic columns of different proportions, the absence of any anta at the west end of the south wall, and the crude overlap of the north portico, are defects patent enough to the eye of any but an archaeological enthusiast. In the disposition of the parts of the interior no particular motive is evident for placing the north and south doors of the axis of the westernmost cella, and the whole plan appears purposeless in its asymmetry. Yet in the face of this we find such authorities as Durm and Penrose giving indiscriminate praise to the entire conception as it stands. They maintain that "a regard for the effect of the whole mass was never left out of view," and that "the peculiar combinations which we find are not haphazard, but are due to deliberate intention." And till recently it was fashionable to regard the Erechtheion as a deliberate *tour de force* in picturesqueness and to take its success for granted.

Professor Dörpfeld's solution of the problem was arrived at through a realization of the manner in which every Classic architect designs. The plan of the Erechtheion, as we know it, he assumes to be a little more than half of the original scheme. Only on such a hypothesis can its peculiarities be satisfactorily explained. The curtailment of the design he attributes to the same vigorous opposition, based on conservative and religious prejudices, which had partially wrecked Mnesicles's scheme for the Propylea, and which had also insisted on the preservation of the cella of the old Hecatompedon, though the latter ran within two metres of the caryatid porch at the southeast corner and completely obscured it. There can be little doubt, from the manner in which the curtailment was effected, that the architect (believed by Professor Dörpfeld to be Mnesicles) took for granted the ultimate triumph of the Periclean policy in this matter.

As originally conceived, the arrangement must have balanced on either side of the north and south porches. With these as central features, disposed in proper relation to the hexastyle porticoes at the east and west ends, the whole plan becomes architecturally intelligible. There is some doubt as to precisely how the roofing of the structure would have been managed in order that certain religious requirements should be satisfied. On the whole it appears most probable that the two middle compartments, separated by the vestibule connecting the north and south porches, would be left open to the sky, and the rest of the building covered over.

It is greatly to be regretted that Mr. Stevens's elaborate drawings of the executed portion of the design remain still unpublished, owing to difficulties in connection with the provision of the text. Until his comprehensive work appears there can be no adequate appreciation of this most exquisite achievement of the Ionic-Attic manner.

BOOK REVIEWS.

HOUSING REFORM. Lawrence Veiller. 1910. New York Charities Publication Committee. Price, \$1.25, post paid.

A foreword is written by Mr. Robert E. de Forest. Lawrence Veiller has made a lifelong study of tenement reform and speaks from an experience covering many years as a settlement worker and, later, as practical director of the tenement House Committee of the New York Charity Organization Society.

Quoting from his opening chapter: "Every American city has its housing problem. While in no two cities the same, in all there are certain underlying conditions which find common expression." Mr. Veiller states these conditions and applies general and specific remedies. It is interesting both from humanitarian and architectural standpoints.

THE MANOR HOUSES OF ENGLAND. P. H. Ditchfield, M. A. F. S. A. 1910. Illustrated by Sydney R. Jones. Imported by Charles Scribner's Sons, New York. Cloth. \$3.00 net.

Much has been said and written regarding the prominent and historic old country manor houses of England. This is an effort to get somewhat off the beaten track and to treat the subject with new life from unusual examples. The text matter is excellent; the illustrations and general make-up of the book made it attractive and instructing.

TOWN PLANNING IN PRACTICE. Raymond Unwin. 1909. Imported by Charles Scribner's Sons, New York. Cloth. \$6.00 net.

Town planning and development is the vital architectural problem of the age in all centers of civilization. While we are talking about sanitation, health, education and municipal art, we can never lose sight of the vast importance of town planning. Mr. Raymond Unwin has devoted much time and study to the promotion of ideal housing for the working classes and we are now pleased to know that he is taking up the matter in its broad sense and application. The book possesses many values. There are about 500 illustrations from photographs, maps and plans.

ROMAN CITIES OF NORTHERN ITALY AND DALMATIA. A. L. Frothingham, Ph. D. 1910. Sturgis & Walton Co., New York. Crown 8vo. Cloth, \$1.75 net.

To readers in general—even most cultured persons—ancient Italy means Rome. But so little is left of Rome itself and so deep was the impress of Roman spirit and life on the immediate territory under her dominion, that we do well to turn to the early cities of Latium and Etruria to provide material for a better understanding of Rome and her architecture. These cities were developed along parallel lines and kept in such close touch, that their traditions and ruins are, indeed, a part of her history. After a trip through Italy and Dalmatia, where the evolution of the centuries can be studied without foreign admixture, this book brings us back to Rome with a far completer idea of its art and culture in pre-Augustan and Augustan times.